



# Use Case Scenario Summary

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<b>Use Case Scenario Name:</b>	Statewide Lab Orders-Results
<b>Use Case to Which Scenario Belongs</b>	Lab Orders-Results
<b>Sponsor:</b>	Blue Cross Blue Shield of Michigan, State of Michigan
<b>Date:</b>	March 25, 2019

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## Executive Summary

*This brief section highlights the purpose for the use case and its value. The executive summary gives a description of the use case's importance while highlighting expected positive impact.*

Clinical lab results can be used in primary care provider offices as well as health departments. Doctors, laboratories, and other healthcare professionals have a critical need to easily send and find clinical lab results to help with clinical decision support, trending analyses, population health management, medication management, and numerous other care activities.

The coordination of lab results across organizations can be very challenging and can have a negative impact on healthcare costs as well as patient care. Lab results must be presented in a timely manner and in a usable, actionable format so recipients can deliver efficient and effective patient care.

An electronic, statewide exchange of lab results through an interconnected network of trusted data-sharing organizations (TDSOs) can help improve the quality, efficiency, and cost of healthcare.

**Purpose of Use Case:** The Statewide Lab Orders-Results use case supports provider workflow improvements by helping to send, find, receive and use lab results for tests performed at the point of care.

## Overview

*This overview goes into more details about the use case.*

Laboratory test results are a crucial component of caring for a patient yet are often not shared when transitioning a patient to other members of their care team. This sometimes results in adverse events from uninformed clinical decisions or duplicative tests being ordered, both of which are costly, burdensome to the provider, and can be harmful to the patient.

Factors contributing to the challenges of sharing lab results with other care team members include:

- Effort required to assign a logical observation identifier name and code (LOINC), a universal standard for identifying medical laboratory observations, to the electronic message that contains the results
- Accurate matching of the patient with their health information based on the demographic information contained in the lab results message
- Ability to identify the patient's care team

The Statewide Lab Orders-Results scenario helps participating organizations electronically send and receive lab results via the statewide health information network (HIN) overseen by the Michigan Health Information Network Shared Services (MiHIN).

This use case takes advantage of the existing "Transitions of Care" infrastructure to allow healthcare professionals to easily attach and share lab results with each other and with other trusted data sharing organizations.

Organizations participating in this use case are required to onboard to the Active Care Relationship Service use case. The organizations may also onboard to the Common Key Service use case, but this is optional.

Laboratory information management systems (systems used to support lab operations) require information technology architecture enhancements and upgrades to consume a standard, incoming HL7 message

Laboratory information management systems (LIMS or LMS) require information technology architecture enhancements and upgrades to consume a standard, incoming HL7 message.

HL7 language needs to be deciphered, consumed, and annotated accordingly by each unique system

The intended audience for this use case includes healthcare organizations and professionals that want to route electronic laboratory test results to healthcare providers. This may include:

- Laboratories
- Hospitals
- Ambulatory clinics
- Health departments
- Physician offices
- Medical practices

## Persona Story

*To explain this use case, this section follows a persona example from start to finish.*

Once Patrick Bleeke-Paulson felt overwhelmed with managing his health.

Patrick's health concerns all started with Crohn's disease when he was in his mid-20s. From there, it progressed into Primary Sclerosing Cholangitis (PSC). PSC caused extensive liver damage which required a liver transplant when he was 40 years old.



Sadly, the drama didn't end there for Patrick. All of the liver damage (with Crohn's) led to a diagnosis of colorectal cancer.

Patrick takes immunosuppressant medication (because of the liver transplant) and the dose has to be adjusted monthly based on lab results (due to cancer). Those lab results must be shared with his entire care team, which includes an oncologist and hepatologist. So, to keep everyone informed and keep himself in the best shape possible, he needs to be sure each month that his lab results are getting where they need to, on time and accurately.

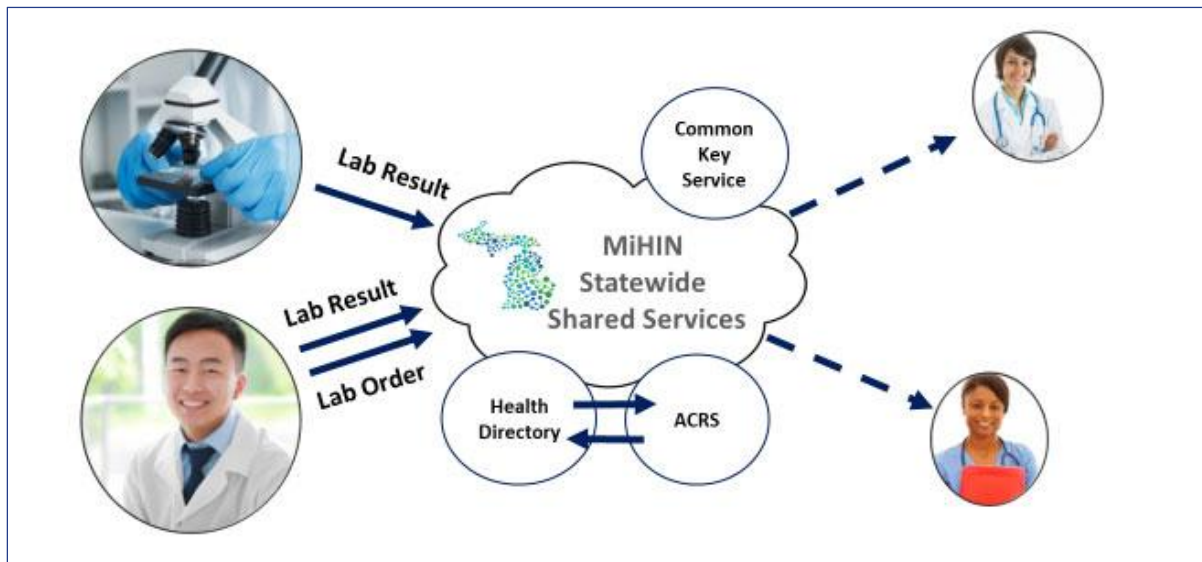
Every month, Patrick arrives at the lab where he has his lab work done. Patrick's lab results are then sent to the organization who requested the lab test be performed originally. The organization then sends those results to MiHIN as part of the Statewide Lab Orders-Results use case process.

When MiHIN receives the lab result, they find Patrick's care team by searching the Active Care Relationship Service. After the team is retrieved, MiHIN routes the lab result to his care team via their requested contact information.

Now Patrick is more assured that he is getting the right care for his conditions.

## Diagram

*This diagram shows the information flow for this use case.*



*Data flow for Statewide Lab Orders-Results use case scenario.*

1. A physician orders a test on a patient.
2. The testing facility obtains the sample for testing.
3. The lab processes the lab and produces a result.
4. The testing facility forwards the results back to the provider organization.
5. The provider organization send the results to MiHIN.
6. Using the Active Care Relationship Service, Common Key Service and Health Directory, the lab result is matched to the patient's electronic health record and can simultaneously be sent to any other of the patient's care team members (dotted lines above).

## Regulation

*This section describes whether this use case is being developed in response to a federal regulation, state legislation or state level administrative rule or directive.*

### Legislation/Administrative Rule/Directive:

- Yes
- No
- Unknown

- State law (MCL 333.20531) and administrative rules (R325.9081 – 325.9086) require blood lead analysis results, and related demographic information, to be reported to the Michigan Department of Health and Human Services within five business days.

### Meaningful Use:

- Yes
- No
- Unknown

## Cost and Revenue

*This section provides an estimate of the investment of time and money needed or currently secured for this use case.*

### Costs

The project financially covers the following components:

- HL7 message development based on the national standard
- Development of the implementation guide
- Development and deployment of a message validator at MiHIN
- Technical development and maintenance at MiHIN
- Piloting of the message
- Development of certified electronic health record (EHR) systems to identify message content and send standard message types
- Participant development and implementation to onboard for this use case
- Implementation and integration for healthcare providers (physicians, clinical laboratories, hospitals, dentists, others)

## Revenue

No revenue is projected for this use case, although significant cost savings are anticipated based on faster, more efficient processing of lab orders and results, and improved care for patients resulting from these more efficient testing processes.

Patients whose providers receive statewide lab results are expected to receive more timely and coordinated care. This will result in better health outcomes and more timely treatment.

## Implementation Challenges

*This section describes the challenges that may be faced to implement this use case.*

Implementation challenges associated with this use case include conformance to standards and the consistency of data elements within the standard structure. There are often limits to the amount and consistency of patient data entered by the source system.

Even if data fields are populated as required by this use case's implementation guide, and the source system (data-sharing organization) sends the correct event types, certain data elements may be omitted.

## Vendor Community Preparedness

*This section addresses the vendor community preparedness to readily participate in the implementation of this use case.*

The lab results format will be HL7 or CCD message which will be routed to the participating organizations based on declared active care relationships. These participating organizations require integration of these messages into their appropriate systems and workflow.

## Support Information

*This section provides known information on this support for this use case.*

### Political Support:

- Governor
- Michigan Legislature
- Health Information Technology Commission
- Michigan Department of Health and Human Services or other State of Michigan department
- CMS/ONC
- CDC
- MiHIN Board

**Other:** Local health departments

## Sponsor(s) of Use Case

*This section lists the sponsor(s) of the use case*

- Blue Cross Blue Shield
- State of Michigan

## Metrics of Use Case

*This section defines the target metrics identified to track the success of the use case.*

- The number of successful inbound and outbound HL7 lab results from provider organizations
- The number of participants in the electronic submittal and receipt of lab orders via health information exchanges, as compared to legacy method of receipt of information